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ABSTRACT

Turbocharger control systems of this invention are used with electric assist turbochargers comprising an electric motor for controlling turbocharger operation. The system comprises an oil pressure sensor attached to the turbocharger for sensing the pressure of oil being directed into the turbocharger for lubricating the shaft bearing assembly. The pressure sensor is configured to provide oil pressure information to a control system that is configured to control the operation of the electric motor and/or other operating parameters of the turbocharger and/or the vehicle. The control system is configured to regulate and/or disable operation of the electric motor during operating conditions where a low oil pressure condition is detected when compared to a predetermined minimum. The control system is configured to reactivate the electric motor once a desired minimum oil pressure has been detected by and transmitted from the pressure sensor. Configured in this manner, turbocharger control systems of this invention operate to prevent possible damage to the turbocharger shaft bearings, thereby extending the effective service life of the turbocharger.